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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,238	03/12/2002	Steffen Burkhardt	E-41482	8983

7590 03/01/2004
Lerner & Greenberg
PO Box 2480
Hollywood, FL 33020-2480

EXAMINER

FRANK, ELLIOT L

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/030,238

Applicant(s)

BURKHARDT ET AL.

Examiner

Elliot L Frank

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The following is a second action non-final response to applicant's amendment (B) filed in the office on 11 February 2004.
2. Corrections or explanations in regard to the problems indicated in items 1-6 of the previous office action have been considered and are accepted.
3. Claims 1-14 remain pending in the application. Claims 1-14 have been amended.

Response to Arguments

4. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3,8-10,13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kellams et al. (USPN 5,854,749 A) in view of Kuttner et al. (USPN 6,044,895 A).

The limitations of the aforementioned claims, and the relevant citations in Kellams et al., are as follows:

1. A method for setting process parameters of a production process for an elongate sheet-like product to achieve a predeterminable quality (column 1, lines 10-67), with the following features:

recording a plurality of process parameters of the production process as a function of time in the form of process data,

processing the process data in at least a first data processing unit and output as production data (recording and outputting the process data is read at column 4, lines 13-20),

observing the surface of the product by means of a surface inspection system within or at the end of the production process in a process step, the observation data being used in at least a second data processing unit to record the entire surface as a surface map with established surface features in the form of surface data and to classify the surface features according to various types and/or according to size and/or according to frequency and enter them in the surface map according to their position (classification of defects is read in Kellams et al. at column 4, lines 32-40),

outputting the various classes and positions of surface features as product data,

feeding the production data and the product data together to at least a third data processing unit and investigating the production data and the product data there for correlations existing between them, with rules as to how the product data depend

on specific: production data being established (correlating product and control data is read at column 4, lines 41-50),

setting the process parameters in accordance with the established rules to achieve a desired quality (column 5, lines 38-44).

2. The method as claimed in claim 1, the product being rolled steel and the production process being a rolling process, in particular a hot-rolling process in a cast-rolling installation (column 1, lines 10-67).

13. The device as claimed in claim 8, wherein the first, second and third data processing units are arranged spatially apart from one another (Obvious in view of Kellams et al. column 6, lines 12-21 wherein the controlling system can be one or more systems).

14. The device as claimed in claims 8, wherein the first, second and third data processing units are integrated into a common data processing center (Obvious in view of Kellams et al. column 6, lines 12-21 wherein the controlling system can be one or more systems).

While Kellams et al. reads on the core method of the steel processing system claimed in the instant invention, it does not specifically recite the limitations of claims 1-3,8-10,13 and 14 wherein a surface inspection system is required.

Kuttner et al., analogous to Kellams et al. in that both systems are used for steel processing (Kuttner et al., column 1, lines 23-31) reads on the additional requirements of claims 1-3,8-10,13 and 14 wherein the surface scanning system at column 4, lines 22-49 and the additional requirements of claim 3 is read as follows:

3. The method as claimed in claim 1, the surface inspection system (6) being an arrangement having a plurality of sensors, in particular cameras, with downstream image analysis systems (column 7, lines 22-47).

Device claims 8-10 have the same functional limitations as method claims 1-3 respectively, and therefore are obvious in view of the same citations in the combined references.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the inspection elements of Kuttner et al. into the Kellams et al. system to have provided provided the central control unit with information used to adjust the parameters resulting in process improvement (Kuttner et al., column 7, lines 22-47).

7. Claims 4-7, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kellams et al. (USPN 5,854,749 A) in view of Kuttner et al. (USPN 6,044,895 A) as applied to claims 1 and 8 above, and further in view of Kulkarni et al. (USPN 5,991,699 A).

Claims 4-7 depend from claim 1. Claims 11 and 12 depend from claim 8. Claims 1 and 8 have been shown to be obvious in view of Kellams et al. and Kuttner et al.

While the combined references make obvious a defect classification system, the references do not specifically recite how the defects are classified and how this information is applied.

Kulkarni et al., analogous to the previously indicated references in that all three are quality systems for a manufacturing process (Kulkarni et al., column 3, line 60-column 4, line 10), reads on the additional limitations of claims 4-7, 11 and 12 as follows:

4. The method as claimed in claim 1, the investigation for correlations between production data and product data being in particular a correlation, which considers the entropy in the data space and detects correlations by finding data constellations with minimal entropy (column 3, line 60-column 4, line 10).

5. The method as claimed claim 1, the surface inspection system analyzing the surface data online or offline, so that the product data are already available during production and detected correlations can be used directly for setting production parameters to achieve or maintain a predeterminable quality (column 20, lines 50-63).

6. The method as claimed in claim 1, in which, after detection of certain Correlations in the first or second data processing unit, production data or product data which do not show any correlations are filtered out and excluded from the further processing in the third data processing unit (column 9, line 54-column 10, line 7).

7. The method as claimed in one of the preceding claims, specific production data or product data being passed on in the first data processing unit or second data processing unit without prior analysis, filtering or processing to the third data

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processing unit, to allow possible correlations with these unprocessed data to be found (column 7, lines 28-36).

Device claims 11 and 12 have the same functional limitations as method claims 4 and 5 respectively, and are therefore obvious in view of the same citations in the combined references.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the elements of Kulkarni et al. into the Kellams et al. and Kuttner et al. system to have created a system that grouped defects into certain meaningful cluster approximations of those groups with each cluster having a related causality which could be used to identify corrective actions for the system (Kulkarni et al., column 3, lines 48-57).

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

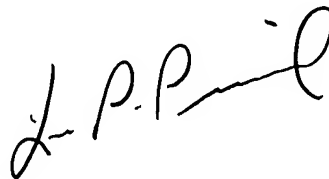
Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elliot L Frank whose telephone number is (703) 305-5442. The examiner can normally be reached on M-F 7-4:30, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P Picard can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ELF
February 24, 2004



**LEO PICARD
SUPERVISORY PATENT EXAMINER
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